UPMBIOFORE
BEYOND FOSSILS

FibGel™

NATURAL INJECTABLE HYDROGEL FOR PERMANENT IMPLANTS

UPMBIOMEDICALS

FIBGEL™ – COMPONENT FOR MEDICAL DEVICES

FibGel is a biocompatible and safe material for injectable implants, composed solely of wood cellulose and water. This nanofibrillated cellulose hydrogel is based on patented technology and is designed and manufactured following ISO 13485 standards in Finland. As a novel hydrogel material, FibGel is an ideal component for companies developing medical devices for various soft tissue repair and orthopedic applications.

Biocompatible and safe

Based on the pre-clinical studies, FibGel does not induce immune responses, adverse reactions or a fibrotic capsule around the implant. This ensures safer outcomes for patients and enhances their overall comfort and well-being. Biological safety has been evaluated following ISO 10993 standards. Nanofibrillated cellulose has been used in class IIb medical devices in clinical use for the past 4 years.

Non-degradable and Long-lasting stability

FibGel is a permanent implant. It remains intact after a single injection, eliminating the need for multiple procedures. This leads to improved patient compliance, reduced healthcare costs, and fewer follow-up visits.

Customizable for versatile applications

The tunable properties of FibGel allow for adjustable stiffness and the incorporation of additional components, making it highly adaptable to a wide range of medical applications. This flexibility enables tailored solutions that meet specific clinical needs.

Easy-to-inject

FibGel is easy-to-apply even in high stiffness. Due to its shear thinning properties it can be injected effortlessly even through a fine 25G needle, requiring minimal force. This simplifies the administration process and reduces procedure time.

Temperature stable for convenient handling

With robust temperature stability, our material can be handled and stored at room temperature , ensuring ease of use and fast preparation. A long shelf life of at least 18 months ensures reliable performance without the need for special storage conditions, reducing logistical complexities.

Quality controlled

Our nanocellulose is used in a class IIb medical device, FibDex wound dressing (fibdex.com). Our sterile material meets the highest quality and safety requirements, providing confidence in its performance and suitability for medical applications also in hydrogel form.

Animal-free and environmentally sustainable

Composed entirely of wood cellulose and water, our material is pure, inert, and free from animal DNA, aligning with ethical standards and sustainability goals. This commitment to animal-free ingredients supports the development of environmentally friendly and socially responsible biomedical products without any fossil-based materials. FibGel™ is manufactured from renewable and responsibly sourced Finnish birch wood.

Potential applications:

- **Soft tissue repair**
- **Orthopedics**
- **Aesthetics**
- **Drug delivery**
- **Cell transplantation**

References

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CONTACT US FOR MORE INFORMATION

FibGel™

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FibGel™ is manufactured in Finland, EU.
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